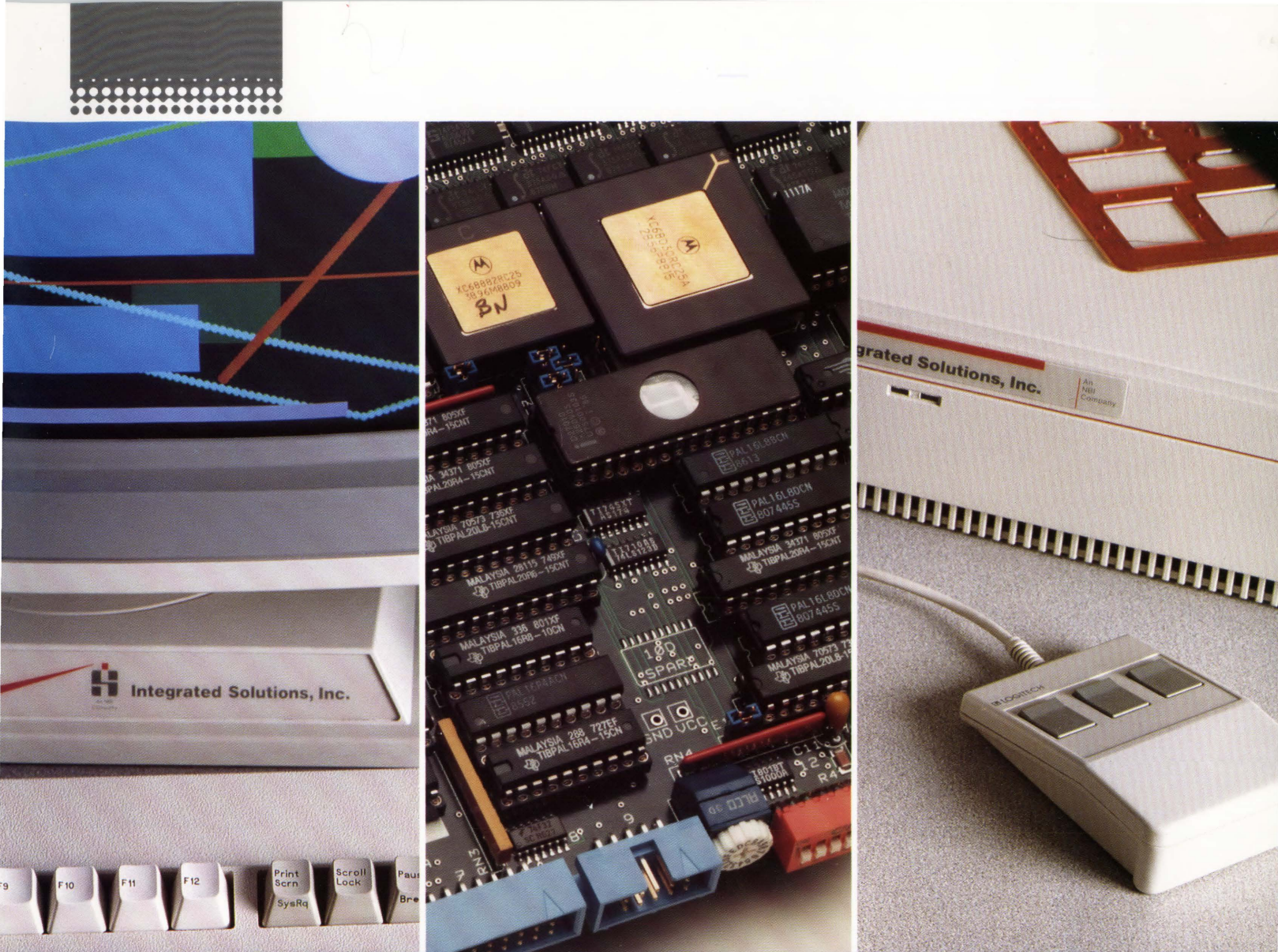
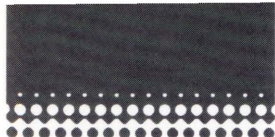




Integrated Solutions Product Catalog

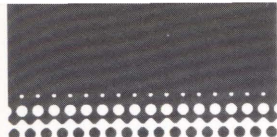


Integrated Solutions, Inc.
An NBI Company



Integrated Solutions Corporate Focus:

Integrated Solutions, Inc., designs, manufactures, and markets high-performance UNIX™ platforms, and real-time development and delivery systems.



Introduction to Integrated Solutions

Integrated Solutions was founded in 1981 as a producer of board-level products based on the Q-bus, later offering multiuser Q-bus systems. The company evolved its products, leveraging this experience into VME-bus-based systems and workstations using the UNIX operating system.

The company continues to supply systems based on industry standards. The Optimum Series is based on the Motorola™ 68030 and 68020 microprocessors and the VMEbus. The Advantedge Series is based on the MIPS R2000 RISC chip set. Both series use UNIX.

The company is evolving from a vendor of general-purpose computers to a focus on real-time products. Integrated Solutions is committed to becoming a major single-source vendor of real-time development systems. An intensive, on-going development program has provided the company with a growing family of integrated, real-time hardware and software products.

Integrated Solutions' strategy to become a single-source vendor reflects today's market needs. Through market research, the company has confirmed that many developers of real-time products would like to streamline the equipment procurement process. Integrated development tools—rather than a variety of products from different manufacturers—not only improve reliability, but simplify service and support.

Integrated Solutions is committed to providing these integrated tools through internal product development and the sourcing of carefully chosen third-party hardware and software. The company can also quickly tailor products to adapt to the special functions and configurations a customer often demands. Simply put, Integrated Solutions is providing customers a one-source solution to their total systems integration needs.

This catalog lists Integrated Solutions' products by category. The first part of the catalog lists hardware products. Hardware products are available as fully-configured systems, or as individual components. This catalog details the two major hardware categories: systems and boards. The second part of the catalog lists software products. The software section includes information on operating systems, drivers, and third-party software packages. Following this section is information on Integrated Solutions' maintenance programs.

If you would like further details on Integrated Solutions, please see the back page for the phone number of the sales office in your area. In addition, documentation is available for all products and a separate documentation catalog can be ordered through your sales representative or through technical support.



*Integrated Solutions
international headquarters in
San Jose, California.*

The Optimum Series

Optimum Systems

A family of VME-based high-performance computer systems with packaging versatility that offers maximum flexibility for upward growth path. All systems are 32-bit, dual-bus (VME and high-speed memory buses), MC68030/MC68020-based with UNIX 4.3BSD™ operating system. UNIX System V.3 is also available as an option in a dual-universe environment. Seven models are available: a 6 slot, an 8 slot, a 13 slot, a 16 slot, a 20 slot, a 24 slot, and a diskless node (8 slot).

Optimum Workstations

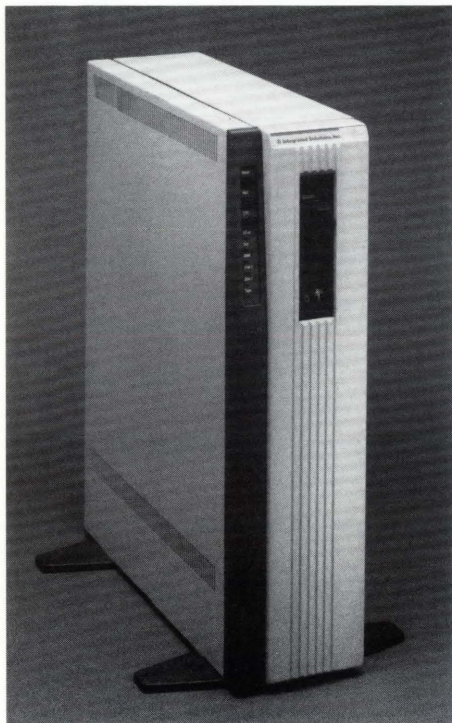
A family of graphics workstations, 19-inch, 1280 x 1024 pixel resolution, both monochrome and color. Based on the 32-bit VMEbus, MC68030/-MC68020 processors, and UNIX 4.3BSD. UNIX System V.3 is also available as an option in a dual universe environment. Seven models are available: a 6 slot, an 8 slot, a 13 slot, a 16 slot, a 20 slot, a 24 slot, and a diskless node (8 slot).

Optimum Clusters

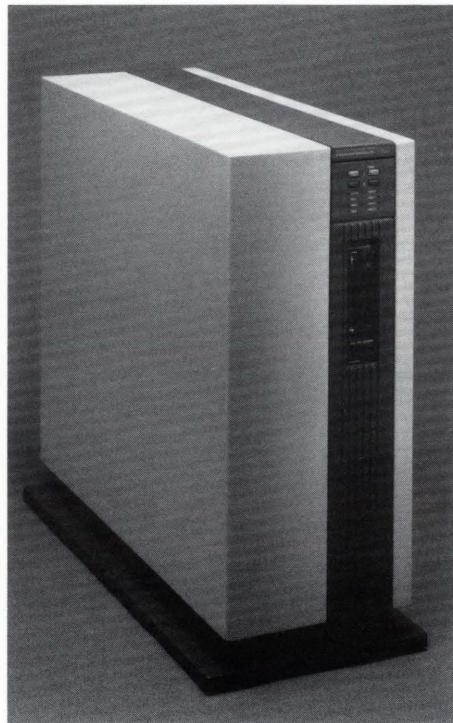
Optimum Cluster Workstations include an MC68030 or MC68020 CPU, memory, and a graphics subsystem. Optimum Cluster Compute Nodes include an MC68030 or an MC68020 CPU and memory.



Optimum Systems and Workstations offer a wide variety of packaging and configuration options to suit your individual compute needs.



The Optimum 8-slot deskside system.



The Optimum 13- or 16-slot deskside system.



The Optimum 20- or 24-slot rackmount system.

ADVANTedge Series

A RISC-based, high-performance OEM workstation product that is available at various levels of integration, some of which are described here. At the heart of the Advantedge system is the R2000 central processor running at 16.67 MHz. The R2000 is complemented by the R2010 floating point accelerator to enhance floating point performance of the chip set to 3.8 MFLOPS single-precision and 1.8 MFLOPS double-precision. To further enhance system performance, two 32-KByte cache memory modules have been added (one for instruction and one for data). Four write-back buffers, the R2020 chip set, have also been incorporated to effectively utilize the external cache memories. The levels of integration are listed below.



Base Board

A non-bus product, the base board is a 13-inch by 14.5-inch, 8-layer board. The dual-processor architecture includes an I/O processor (IOP) that offloads the MIPS CPU from all I/O tasks. The IOP is an 80186-compatible, 10-MHz NEC V50. The IOP controls the SCSI chip, the LANCE chip for Ethernet, the floppy, the keyboard, a Z8530 chip that offers serial I/O, a Centronics™ parallel printer interface, and a clock/calendar with 50 bytes of static RAM for holding non-volatile information.

Base Board with Graphics Interface

A separate daughter board (for video) that plugs into the base board via a proprietary connector. The video block is controlled by the MIPS CPU and offers eight bits per pixel. A total of 256 colors can be displayed simultaneously out of a palette of 16.7 million colors, or a palette of 4,096 colors.

Desktop System

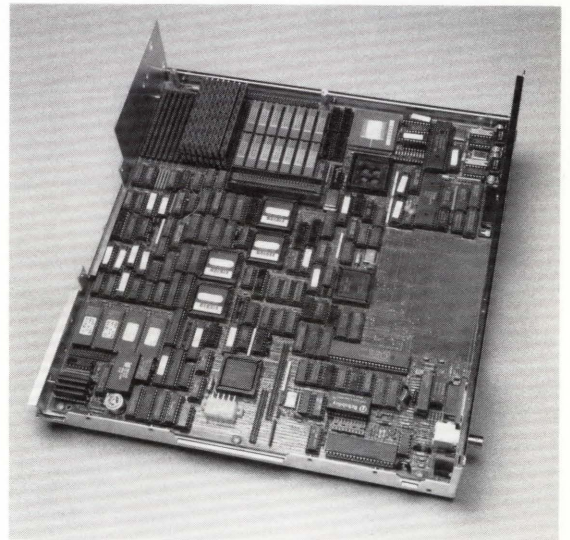
A building-block configuration which includes the desktop cabinet with the base board, the graphics interface, the power supply, and the backpanel connectors. The desktop cabinet has a compact footprint measuring approximately 3 inches high, 14 inches wide, and 15 inches deep. Two 3 1/2-inch peripherals can be accommodated within the cabinet. These could be a combination of 3 1/2-inch disks, streaming tape, or half-height floppy.

Diskless Workstation

Includes all the elements of the desktop system plus the monitor, keyboard, and mouse. This configuration level is without peripherals and is suited to network environments.

Stand-Alone Configuration

The highest level of integration is the stand-alone workstation configuration. This consists of the diskless workstation with either color or monochrome graphics, plus a choice of two SCSI peripherals integrated into the desktop system.

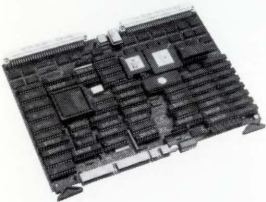


The Advantedge Series is available at various levels of integration, from a fully configured workstation (top), to a base board (bottom).

Family: General Purpose Processors

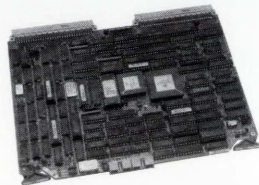
VME-68K30

A very high-performance 32-bit, 25-MHz MC68030 CPU that offers up to 7 MIPS. The VME-68K30 has 64 KBytes of external cache memory, eight on-board RS-232C ports, four counter/timers, and VME and VSB memory. The board operates in single or multi-processor systems. Includes the MC68882 floating point coprocessor.



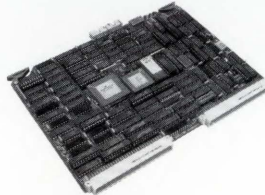
VME-68225

A high-performance 32-bit, 25-MHz MC68020 that offers up to 4 VAX MIPS. The VME-68225 supports up to 32-MByte RAM. The Memory Management Unit features eight concurrently programmed contexts and 4-KByte page size. Includes the MC68881 floating point coprocessor.



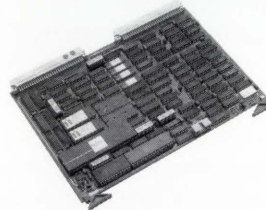
VME-68K20

A high-performance 32-bit, 16.67-MHz MC68020 CPU on a standard dual-size VME board. The VME-68K20 includes an MC68881 16-MHz floating point coprocessor, one EPROM socket, two RS-232C serial ports and 60-Hz timer, and supports memory up to 14 MBytes.



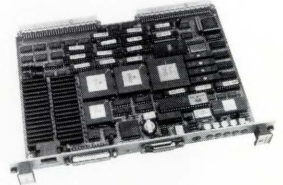
VME-68K10

A low-cost systems-oriented CPU on a standard double-size VME card. Maximizing the performance available from the Motorola MC68010, the VME-68K10 features 11.2-MHz 68010 CPU, four EPROM sockets for up to 128 KB of on-board EPROM or ROM, two RS-232C serial ports, 60-Hz timer, and supports memory sizes up to 14 MBytes.



Liberator-SBC

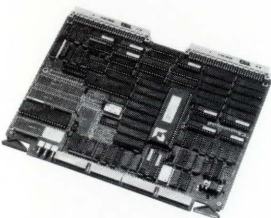
The most functional single-board computer available. The Liberator has all the processor, peripheral, and communications functionality of a complete two MIPS computer system. These features include on-board color graphics, 4-MBytes of memory, SCSI controller, and an Ethernet™ interface. The Liberator provides functions and performance unequaled on a 6U VME board. On this single board, the Liberator provides the capability that normally requires as many as five separate slots in the bus.



Family: Graphics Subsystems

VME-Monochrome

Intelligent VME Monochrome Graphics Subsystem. A two-board monochrome graphics card set, includes a graphics display controller card, AMD 29116 processor, 512-KByte display memory providing one-bit plane with two-frame buffers, graphics memory access manager, 1280 x 1024 resolution, monochrome monitor, keyboard, and mouse.



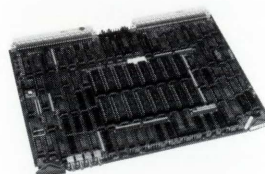
VME-Monochrome/Color Controller

VME-VGSC

Intelligent VME Color Graphics Subsystem. A two-board color graphics card set, includes a graphics display controller card, AMD 29116 processor, 1-MB display memory providing four-bit planes, graphics memory access manager, color monitor, 1280 x 1024 resolution, keyboard, and mouse.

VME-MWS

VME Monochrome Graphics Subsystem. A single-board monochrome graphics card that includes a graphics display controller, AMD 29116 processor, 256-KByte display memory providing one-bit plane with two-frame buffers, graphics memory access manager, 1280 x 1024 resolution, monochrome monitor, keyboard, and mouse.

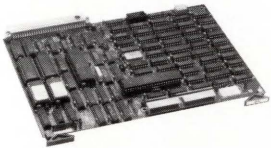


VME-MWS Controller

Family: Mass Storage Interfaces

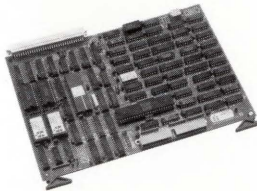
VME-SCSI/U

Allows the host computer to interface to a variety of embedded SCSI peripheral devices including optical disks, magnetic disks, and tape drives. These SCSI devices can be a combination of different peripherals, with up to seven target devices. On Integrated Solutions' systems, the VME-SCSI/U currently supports up to four embedded magnetic disks.



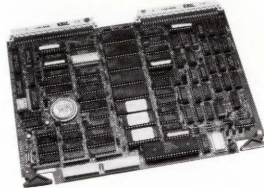
VME-SCSI

Provides high-performance 5-1/4 inch Winchester disk technology to the VMEbus user. The VME-SCSI permits attachment of up to four ST506 5-1/4 inch drives.



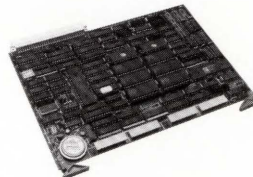
VME-QIC2/X

A 1/4-inch QIC-02 cartridge tape controller and a real-time clock on a single 6U VME board. The VME-QIC2/X features 48 KBytes of on-board data cache for sustained high data transfers. It supports 30- or 90-inch-per-second QIC-02 tape units. Variable size record support emulates start/stop tape units, and the programming interface employs packet processing.



VME-TC50

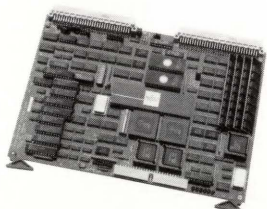
A 1/2-inch, nine-track tape controller with an industry standard (Pertec) interface. The VME-TC50 features 48-KB on-board buffer with real-time clock, supports 1/2-inch tape drives running at up to 200 KB transfer rate, tapes may be 800, 1600 or 6520 bpi with standard Pertec interface. Streaming and start/stop tapes are supported.



Family: Communications

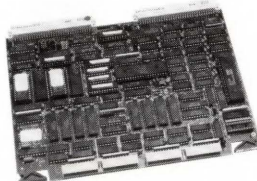
Falcon VME-NC/X

At the heart of the Falcon is the Motorola MC68010 protocol engine which can execute X.25, BSC 2780/3780, HASP, SNA 3770, SNA 3270, BSC 3270, and other high-level synchronous and asynchronous protocols. Integral to the Falcon are two Z8530 controllers which provide four communications channels under DMA control with two Motorola 68450 DMA controllers. UNIX 4.3BSD drivers are available to facilitate system integration of the controller.



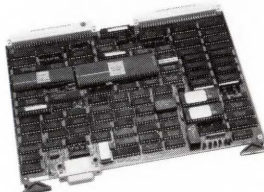
VME-ICP16/X

Intelligent Communications Processor with 16 or 8 RS-232C serial ports with modem controls, one parallel port compatible with Centronics and Data Products interface, 16-KB on-board buffer, and one or two eight-port breakout boards with cables.



VME-EC/X

An Ethernet controller that combines an extended addressing capability with an advanced architecture to enhance performance across the network. Includes a 10-MHz MC68000, an AM7990 LANCE Ethernet controller, an AM7992 serial interface adapter, and 256 KBytes of dual-port RAM.



Family: Memory

VME-HSMEM-8/4

A high-speed memory board available in two configurations: 8 or 4 MBytes of memory on a single board. Access time is 120ns and cycle time is 240ns.



VME-HSMEM

A high-speed memory board with two MBytes of memory. Access time is 120ns and cycle time is 240ns.



PVSB-16/8/4

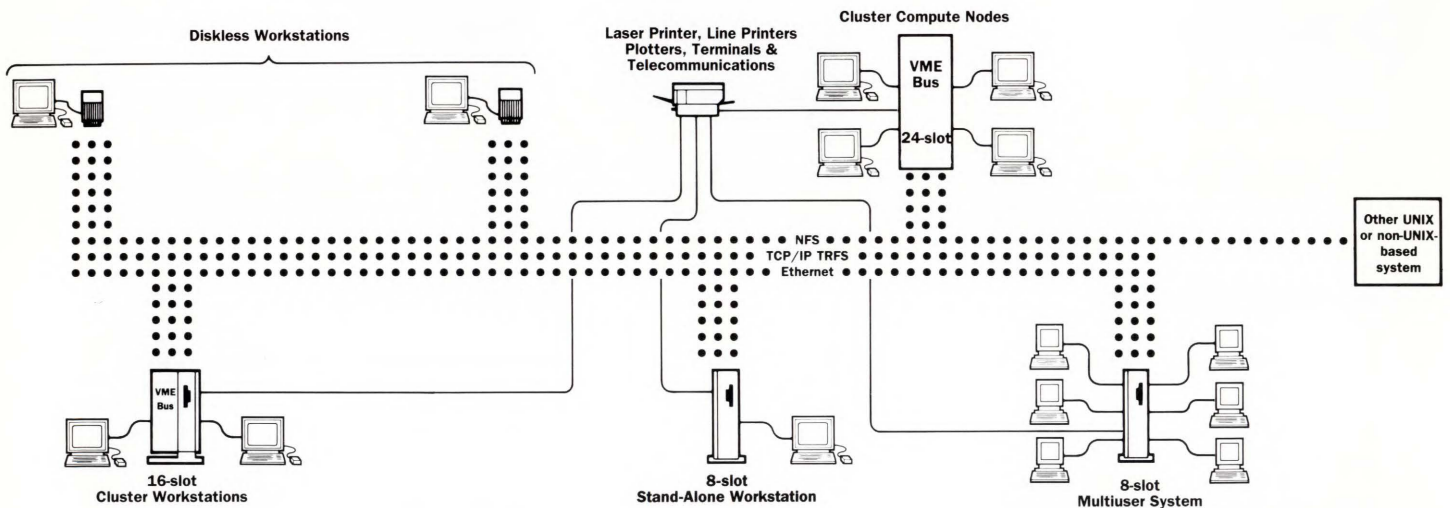
PVSB (Performance VME Subsystem Bus) memory board available in three configurations: 16, 8, and 4 MBytes. All three versions work with Integrated Solutions VME-68K30 CPU board. Offers better performance over the standard VME Subsystem Bus (VSB).

UNIX 4.3BSD and System V Release 3.0

UNIX 4.3BSD comes standard with all Integrated Solutions' systems, with System V Release 3.0 offered in a dual-universe environment. Integrated Solutions' dual port provides the full features of System V including Streams and Remote File System (RFS), while offering SVID compliance.

TRFS

Integrated Solutions' Transparent Remote File System (TRFS) is an extension to Integrated Solutions' UNIX kernel that enables users or programs to quickly access files on remote Integrated Solutions' machines. It eliminates the problem of duplicate data and wasted disk space by enabling direct access to remote systems and workstations. TRFS coexists with other network protocols (including TCP/IP), and due to reduced overhead, provides more than twice the throughput of TCP/IP on the same medium (Ethernet).



A typical Optimum network configuration. Advanced networking options include TRFS for fast proprietary communications, as well as NFS for multi-vendor communications.

NFS™

The Optimum Series offers the industry-standard Network File System (NFS). NFS provides transparent file access among computers from many different vendors, greatly enhancing the usefulness of a local area network.

Software Drivers

Integrated Solutions provides source-level device drivers. Please contact your local salesperson for more details.

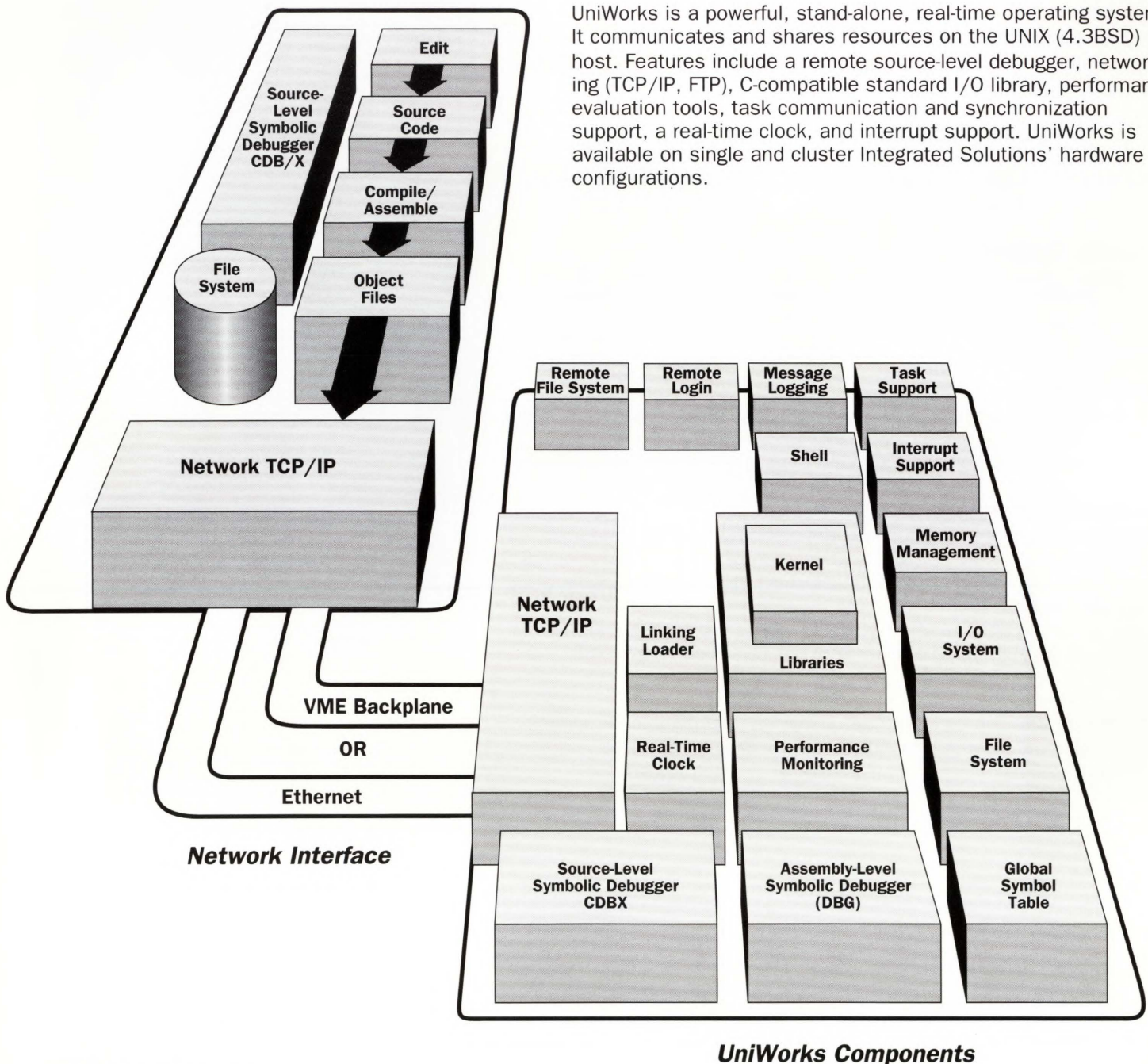
Languages

The Optimum Series provides high-performance compilers including Green Hills' C, Fortran 77, and Pascal. For higher-performance needs, NKR Fortan is also available. For AI applications, Franz Common Lisp is available. Other compilers and AI languages are available through third-party vendors.



Software

UniWorks™ Real-Time Operating Environment



UniWorks is a powerful, stand-alone, real-time operating system. It communicates and shares resources on the UNIX (4.3BSD) host. Features include a remote source-level debugger, networking (TCP/IP, FTP), C-compatible standard I/O library, performance evaluation tools, task communication and synchronization support, a real-time clock, and interrupt support. UniWorks is available on single and cluster Integrated Solutions' hardware configurations.

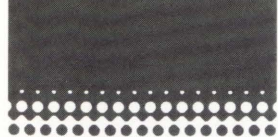
UniWorks Components

X Window System™

All Integrated Solutions Optimum Workstations include the industry-standard X Window System and Integrated Solutions' Desktop Manager, to provide a user-friendly graphics interface.

Third-Party Software

Integrated Solutions offers over 100 applications for Optimum Workstations and Systems. Application environments addressed by Integrated Solutions include Computer-Aided Software Engineering, Artificial Intelligence, Graphics, Documentation, Computer-Aided Engineering, Computer-Aided Design, Database, and Office Automation.



Maintenance Programs

Warranty

All software and hardware products are under a 90-day warranty from the date of shipment. This includes unlimited telephone support and mail-in exchanges as needed.

Mail-In Hardware Maintenance

On a yearly contract basis, Integrated Solutions will provide mail-in hardware maintenance. This program enables customers to exchange defective parts as needed.

Software Support

On a yearly contract basis, Integrated Solutions provides two software support programs. Full software support includes unlimited telephone support and all updates, both major and minor. Or you may contract for updates only.

Repair Service

On a mail-in basis, Integrated Solutions provides a repair service for all products Integrated Solutions sells, including vendor parts. A flat fee schedule will be quoted over the phone for a majority of these products.

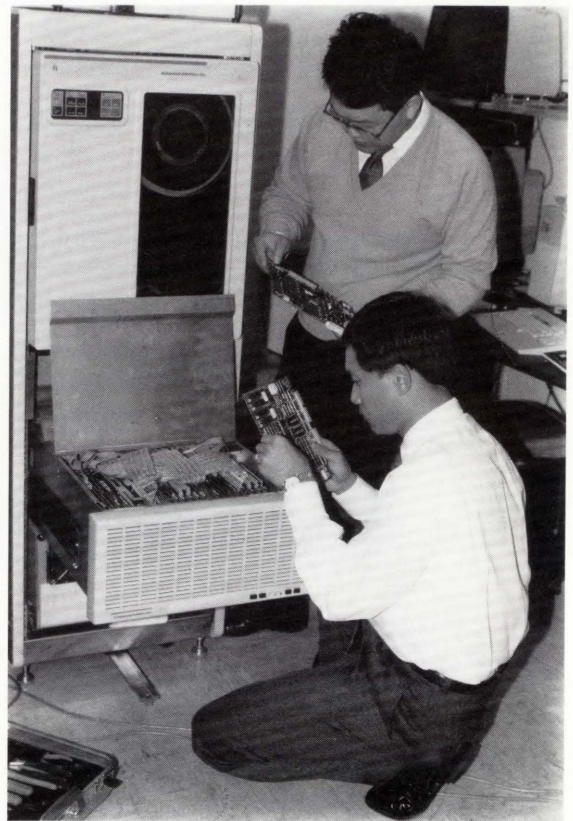
Telephone Service

Customers not under contract can purchase telephone service on an hourly basis.

Other Services

On-site contract maintenance, installation service, and time and material services can be purchased directly from our parent company, NBI.

For further information on Integrated Solutions' Maintenance Programs, contact your local sales representative or the Support Services department.



*Integrated Solutions' Technical
Support Services*



National Sales Areas

Arlington, VA
(703) 524-4990

Belmont, CA
(415) 595-3236

Dallas, TX
(214) 661-8887

Los Angeles, CA
(213) 827-4799

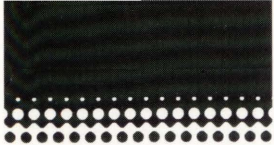
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